C & I FEATURE INDEX 1989

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Analysis On-line	Analyser houses and systems Gas analysers on-line Mass spectrometers move on-line Blast furnace gas analysis. F Feichtinger IR analysis for emissions. E Jones Gas detection on-line Spectrochemical analysis widens. I Macleod Water and waste treatment	Mar Mar Apr Sep Sep Oct Dec
Calibration and test	Calibration methods and equipment TC simulators simplify calibration. T Kimber Firmware helps intelligent testing. R Border On-line calibration of load cells	Jan Apr May Oct
Commun ications	Fieldbus moves up another gear Communications and metering. R Redding Low-level local area networks. J Bentham Telemetry cuts gas leakage. W Ellis Fibre optics for low power links. Sylvan et al Integrating data and telemetry. E Williams Linking PCs/PLCs with multi-micros. J Pinto	Jan Apr May May Jul Oct Oct
Control & Software	Control software, SPC/SQC and adaptive Designing in guarantees. T Hodgson Distributed control systems review & survey PCs go distributed. G Readman Advanced system developments. A Simmons Low cost control goes distributed. P Cuthbert Software for batch processing. M Wilkins Multi-tasking software using PCs. R Williams Software for industrial control. K Thornhill Graphics and integrated control Workstations for the plant floor Industrial micros monitor. 18 suppliers Adaptive and self-tuning control. J Epton Standardisation of control software PID control and loop tuning basics Pt I. PID control and loop tuning basics Pt II Making self-tuning successful. K Cheshire Gain scheduling for process control. A Ulf	Mar Mar Apr Apr Apr Apr Apr May May Jun Jun Jun Jun Aug Sep Nov
Data Acquisition & SCADA	Software tested in the mines. C Stevens Windows on the real world. P Doctor Conditioning for sleek signals Data loggers monitor. 30 suppliers reviewed Supervisory control paints the picture Boards and systems see developments Software spreads for acquisition	Mar Jun Jul Oct Dec
Energy	Energy management does save money	Jul
Exhibition Reviews	Programmable controller PC '88 review C&I show preview C&I show review INTERKAMA preview Total solutions preview Interflow preview 1992 management conference preview ISA/INTERKAMA show reviews ISA show review. Part II	Mar Apr Mar Sep Occ Occ Occ No
Expert Systems	Fault diagnosis in processes. R Barraclough Applications of advanced control. J Clare	Jur Sej
Flow- metering	Multi-phase flow. Prof R Baker Analysing flow signals. Prof E H Higham et a Selecting the right flowmeter guide/chart High technology flow systems	Fel Fel Fel

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	Metering and communications. R Redding Creating the right vibes. R Furness Interflow exhibition preview Flowmeter monitor. 35 suppliers reviewed Ultrasonics offer energy savings. S Milford	Apr Apr Oct Nov
Industry Insights	Iron and steel Glass industry Offshore, plus PESs for ESD Power generation Chemicals Environmental/pollution Food and beverage industry Textile industry Plastics processing Cement and brick Petrochemicals and refining Water and waste treatment	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Level	Level systems monitor Advances in ultrasonics. S Woodward Selecting a better dip-stick. M Shortall Novel sensing, ultrasonics, acoustics review	Jan Apr Aug Aug
Panel and Local Ins- truments	Chart recorder techniques by M Griffiths Enclosures monitor Panel instrument monitor Chart recorders monitor. 43 suppliers review Tachometers, counters and timers monitor. Chart recorders gp digital. R Marsh	Mar Apr May Aug Oct Oct
Pressure	Pressure indicators monitor Pressure put in perspective. A Balcombe Smart pressure transmitters/silicon sensors Pressure gauges monitor.	Mar Oct Nov Dec
Program- able Controllers	PLC/ drives exhibition/HSE guide review Hardware and software integration Micro-modular power Communications, functionality & languages	Jan Jan Jan Aug
Safety	High integrity control for critical applications Alarm management for on-line action Smooth talk on a shocking subject. G Clarke Protection in perspective + chart. R Garside Safe software standards. Dr P Bennett Gas detection technology; CoGDEM listing Emissions monitoring using IR. E Jones Safety in nuclear plants. B Martin	May May
Sensing Devices	Humidity and hygrometers plus chart Fibre optics in process control. R Medlock Speed transducers. Dr L Wilhelmy New technology for sensor development	Mar Apr May Dec
Systems	Managing beyond 1992 Integrating systems, people and procedures	Oct Nov
Temp- erature	Temperature control advances. P Nougered Temperature controllers and computers Thermocouples or IR devices. M Johnston Thermocouples and RTD monitor. The smart approach. A Bradshaw	Jul Jul Jul Oct Nov
Valves & Final Elements	Variable speed drive advances Pneumatics needed for valves/actuators Evolution turns to revolution review.	Feb Jun Jun
Weighing	Load cell monitor Load cells and on-line calibration	Jan Oct